Biospheric Sciences Branch Highlights for July – August, 2004

** Compton Tucker to receive Galathea Medal from Danish Royal Court

Compton (Jim) Tucker has been selected to receive the Galathea medal for his contributions to geographical sciences. Specifically his pioneering work in the development and use of remote sensing for determining primary production is being honored. The medal will be presented by the Danish Crown Prince at a ceremony in Copenhagen on November 2nd.

** Elissa Levine hosts "Circle of Life" Science Camp for the Blind

Dr. Elissa Levine (Soil Scientist, Code 923), Dr. Wayne Bell (Biologist, Washington College), Charlie Davis (Plant Ecologist), and others from GSFC joined with the National Federation of the Blind (NFB) to host the "Circle of Life" Science Camp for the Blind. 12 Blind middle school children from across the US and their mentors were part of the 5-day camp experience which culminated in a field trip to the pond and forest area at NASA/Goddard on Friday, July 23. The students were instructed on making soil, vegetation, and atmosphere measurements that were based on protocols form the GLOBE program, and were also given a lesson on recognizing bird calls in the pond and forest ecosystems. After the fieldwork, the students met with blind NASA/Goddard employees at lunch, and spent the afternoon doing additional lab work, and touring Goddard. Dr. Levine's participation in this project was funded by a DDF entitled "Inspiring Blind Students with Earth Science". Additional collaboration with the NFB and a possible second camp next summer are planned. Photos from the camp are featured in this week's Goddard News http://www.gsfc.nasa.gov/goddardnews/gnews8-04.pdf

** Elissa Levine attends 8th Annual International GLOBE conference

Dr. Elissa Levine attended the 8th Annual International GLOBE conference in Boulder, Colorado, July 25-30 entitled "GLOBE: The next 10 years". Representatives from 30 countries were represented and participated in workshops, presentations, and a field training. This was the first official Conference since UCAR retained management of the GLOBE program from NASA. Dr. Levine co-authored a paper presented by Jessica Robin entitled "Integrating GLOBE Measurements with Basic GAPS to Understand Earth System Science" and presented a talk on "Inspiring Blind Students with Earth Science using GLOBE". She also chaired a day long discussion session on GLOBE One, GLOBE's first Intensive Field Campaign being conducted in Black Hawk County, Iowa. Additional information and papers from the conference are available at http://www.globe.gov/fsl/html/templ.cgi?boulder2004&lang=en&nav=1

**** Third LBA Scientific Conference held in Brasilia, Brazil on July 27-29**

The Third "Large Scale Biosphere-Atmosphere Experiment in Amazonia" (LBA) Scientific Conference was held in Brasilia, Brazil on July 27-29. The purpose of this open meeting was to communicate LBA science to other scientists, decision makers, and the public. Over 800 people registered and attended this conference. The poster sessions were noteworthy in that they involved over 400 entries, most of which came from Brazilian students who are being trained as part of the LBA program (Code 923).

The meeting and the scientific results presented were reported in the national and international press and media throughout the week. For example, there was a running ticker tape display about the meeting at the bottom of the CNN International newscast on several occasions. An article that was released by Reuters below is an example of the many stories that came out of the meeting. Also, the LBA-DIS has posted all oral presentations from the III LBA Scientific Conference at the following URL: <ftp://lba.cptec.inpe.br/presentations/LBA-III-Conference-July2004-Brasilia/.

For more information re: LBA MEDIA HITS (as of August 4, 2004) see web site below:

MEDIA HITS: NASA PLAYS KEY ROLE IN LARGEST ENVIRONMENTAL EXPERIMENT IN HISTORY
http://www.gsfc.nasa.gov/topstory/2004/0727lba.html

The following article appeared on the CNN Website re: research of the Large Scale Biosphere-Atmosphere Experiment in Amazonia (LBA), Code 923

SCIENCE & SPACE
Amazon fires alter climate, rainforest
Wednesday, July 28, 2004 Posted: 10:06 AM EDT (1406 GMT

BRASILIA, Brazil (Reuters) -- Burning of the Amazon jungle is changing weather patterns by raising temperatures and reducing rainfall, accelerating the rate at which the forest is disappearing and turning into grassland, scientists said on Tuesday.

Wide-scale burning by loggers and farmers of the Amazon has risen sharply over the past two decades, changing the region's cloud cover and reducing the amount of rain in some deforested areas that are turning into grassland or savanna.

"All the models indicate the same thing, 'savannization,"' Pedro Leite Silva Dias of the University of Sao Paulo said at a conference on research on Amazon deforestation.

Silva Dias said the worst-case scenario for the Amazon, a continuous tropical forest larger than the continental United States, is that at current burning and deforestation rates, 60 percent of the jungle will turn into savanna in the next 50 to 100 years. The most likely outlook is that 20 to 30 percent will turn into savanna, according to forecasting models.

Destruction of the Amazon, home to up to 30 percent of the globe's animal and plant species, reached its second-highest level last year. An area of 5.9 million acres (2.38 million hectares), bigger than the state of New Jersey, was destroyed as loggers and farmers hacked and burned the forest in 2003.

About 85 percent of the Amazon is still standing.

The Amazon experts are presenting the latest findings of the Large Scale Biosphere-Atmosphere Experiment in Amazonia, the world's largest experiment on jungle deforestation.

The experiment, which includes U.S. space agency NASA, has found increasing evidence that the Amazon is slowly getting drier due to burning, with unpredictable consequences for its survival and weather patterns.

The experiment has monitored the Amazon since 1998, using research towers and a unique satellite image system.

As the climate becomes drier and reduces the colossal amount of water vapor over the Amazon, the effects will spread internationally, the experts said.

"Clouds over the Amazon are not in their normal state. The repercussions of this are going to be felt far away," said Meinrat Andreae of Germany's Max Planck Institute of Chemistry. "This leads to significant changes of global (cloud) circulation."

Experts have found that burning of the Amazon, accounts for 75 percent of Brazil's greenhouse gas emissions, making Brazil one of the world's top 10 polluters.

The scientists said the Amazon's climate is already getting hotter due to global warming. Burning in the area itself is accelerating that process.